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on *A. campestris*, and less abundantly on *A. platanoides*, but not at all on *A. pseudoplatanus*. *R. pseudoplatani* infects only *A. pseudoplatanus*, upon which it occurs in company with *R. acerinum platanoides*.

Infection by the spores of *Rhytisma* always takes place on the lower surfaces of the leaves. Observations during a period of six years show that there is a parallelism between the severity of the disease and the quantity of rainfall. No appreciable injury results to the trees from the attack of the fungus.

An experiment carried out by LESLIE and reported by TUBEUF<sup>21</sup> confirms in part the results of MÜLLER. Leaves of *Acer pseudoplatanus*, bearing sclerotia with ripe ascospores of *Rhytisma*, were suspended over pot-plants of *A. pseudoplatanus*, *A. platanoides*, *A. campestris*, and *A. Negundo*. Of these only *A. pseudoplatanus* was infected, showing that the fungus was unmixed *R. pseudoplatani* of MÜLLER.—H. HASSELBRING.

**Fertilization in *Lilium*.**—Although every cytologist has studied fertilization in *Lilium* and many have published their observations and conclusions, BLACKMAN and WELSFORD<sup>22</sup> have added a short paper to the list. They confirm the observation of NAWASCHIN and others, that the male nuclei are not accompanied by any cytoplasm, and agree that the male nuclei are capable of independent movement. The male nucleus which fuses with the polar nuclei is larger than the one which fuses with the egg nucleus, and is distinctly pointed. In both nuclei the chromatin is not in the form of a resting network, but is arranged in strands resembling a spirem. NAWASCHIN thought this arrangement was due to the motile condition, but the present authors suggest that it represents an early prophase of division. In *Fritillaria*, and perhaps in *Lilium*, the pollen tube does not enter the cytoplasm of the sac, but presses between the cytoplasm of the egg apparatus and the cytoplasm of the middle portion of the sac.—CHARLES J. CHAMBERLAIN.

**Nuclei in sieve tubes.**—It is generally accepted that the nuclei of sieve tubes soon disorganize and disappear, even such investigators as STRASBURGER (1891) and ZACHARIAS (1895) having failed to find nuclei in the mature tubes. By using the careful methods of modern cytology, SCHMIDT<sup>23</sup> finds that in *Cucurbita Pepo*, *Victoria regia*, and *Trapa natans*, the nuclei can always be demonstrated, even in the older sieve tubes. The technique of 1891 and 1895 was sufficient for the demonstration of these nuclei, but apparently it was not thought worth while to use such tedious methods in anatomical work. SCHMIDT promises a paper on the structure and function of the sieve tube.—CHARLES J. CHAMBERLAIN.

<sup>21</sup> TUBEUF, K. VON, Rassenbildung bei Ahorn-*Rhytisma*. Naturwiss. Zeitschr. Forst- u. Landwirtschaft. 11:21-24. 1913.

<sup>22</sup> BLACKMAN, V. H., and WELSFORD, E. J., Fertilization in *Lilium*. Ann. Botany 27:111-114. pl. 12. 1913.

<sup>23</sup> SCHMIDT, E. W., Der Kern der Siebröhre. Ber. Deutsch. Bot. Gesells. 31:78, 79. 1913.